

IN THE CLAIMS

Claim 1-19 (cancelled).

Claim 20 (currently amended): A procedure for layered composition of a metal casting mould, comprising the steps of:

- a) mixing solid particles of a bonding agent comprising a salt-crystal, ~~a protein or a combination thereof~~, or a salt-crystal and protein combination, with a sand that comprises quartz sand, zircon sand, olivine sand, fireclay sand or a combination thereof, to form a bonding agent/sand admixture;
- b) applying a thin layer of the bonding agent/sand admixture to an assembly field of an assembly platform;
- c) selectively applying water, in a sufficient dose so that it is capable of bonding particles of sand within a layer to each other, to underlying sand particles that may be present, to the bonding agent/sand admixture in required areas for reacting it with the bonding agent/sand admixture;
- d) drying the water;
- e) lowering the assembly platform; and
- f) repeating at least steps (a)-(d) for applying an additional layer until the metal casting mould is complete.

Claim 21 (previously presented): The procedure of claim 20, further characterized by a step of recycling the sand from the resulting mould.

Claim 22 (new): A procedure for layered composition of models, comprising the steps of:

- a) applying at least a first material layer that includes a moulding sand and optionally a bonding agent that includes a salt-crystal binder or a salt-crystal and protein combination to an assembly platform;
- b) applying a second material layer that includes a moulding sand and optionally a bonding agent that includes the salt-crystal binder or the salt-crystal and protein combination; and
- c) repeating these two application steps until the required model is achieved and both materials form a solid structure in an appropriate mixture ratio, the first material layer, the second material layer or both comprises a bonding agent comprising the salt-crystal binder or the salt-crystal and protein combination.

Claim 23 (new): The procedure according to claim 22, whereby the bonding agent is mixed into the material of the first material layer.

Claim 24 (new): The procedure according to claim 22, whereby the first material layer includes a mixture comprising a solvent, the bonding agent and moulding sand.

Claim 25 (new): The procedure according to claim 24, whereby the moulding sand is coated with the bonding agent.

Claim 26 (new): The procedure according to claim 22, whereby the bonding agent is mixed into the material of the second material layer.

Claim 27 (new): The procedure according to claim 22, whereby the first material layer comprises moulding sand and bonding agent, which is selectively contacted with a solvent.

Claim 28 (new): The procedure according to claim 27, whereby the solvent essentially comprises water.

Claim 29 (new): The procedure according to claim 22, whereby the solvent is applied by means of droplet generation.

Claim 30 (new): The procedure according to claim 22, whereby the solvent is applied by means of screen printing or spraying through a template.

Claim 31 (new): The procedure according to claim 22, whereby the solvent is removed by drying after an appropriate reaction time has elapsed.

Claim 32 (new): The procedure according to claim 22, whereby the moulding sand comprises quartz sand, zircon sand, olivine sand and/or fireclay sand.

Claim 33 (new): The procedure according to claim 22, whereby the bonding agent comprises magnesium sulphate or sodium polyphosphate.

Claim 34 (new): The procedure of claim 22, whereby the model is metal casting mould.

Claim 35 (new): A procedure for layered composition of a metal casting mould, comprising the steps of:

- a) mixing solid particles of a bonding agent comprising a salt-crystal or a salt-crystal and protein combination, with a sand that comprises quartz sand, zircon sand, olivine sand, fireclay sand or a combination thereof, to form a bonding agent/sand admixture;
- b) applying a thin layer of the bonding agent/sand admixture to an assembly field of an assembly platform;
- c) selectively applying an aqueous solvent via a droplet generator, in a sufficient dose.
- d) dissolving with the aqueous solvent the salt-crystal or salt-crystal and protein combination, so that the salt-crystal or salt-crystal and protein combination substantially encompasses the sand particles within a layer and to underlying sand particles that may be present;
- e) drying the aqueous solvent so that the bonding agent/sand admixture bind together;
- f) lowering the assembly platform;
- g) repeating at least steps (a)-(e) for applying an additional layer until the metal casting mould is complete;
- h) casting a metal casting from the resulting metal casting mould;
- i) coring the metal casting through the immersion in a water bath;
- j) dissolving the bonding agent/sand admixture in the water bath; and
- k) recycling the sand from the water bath.

Claim 36 (new): The procedure according to claim 35, whereby the solvent is dried by applying microwave radiation heating or warm air.

Claim 37 (new): The procedure according to claim 35, whereby the bonding agent comprises at least magnesium sulphate or sodium polyphosphate.